



NOAA's Teacher at Sea Program



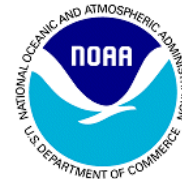
2015 Year in Review

December 2015



NOAA's Teacher at Sea Program

2015 Year in Review



Overview

- 2015 NOAA Teacher at Sea Season
By the Numbers
- Return on Investment
- Teacher at Sea Alumni Association
- TAS Program 25th Anniversary
- Background Material



'To know how to wonder is the first step of the mind toward discovery' – L. Pasteur. These words decorate my classroom wall but are epitomized by the work that the NOAA Okeanos Explorer and the Office of Exploration and Research do each day.

TAS 2015 Theresa Paulsen



2015 By the Numbers



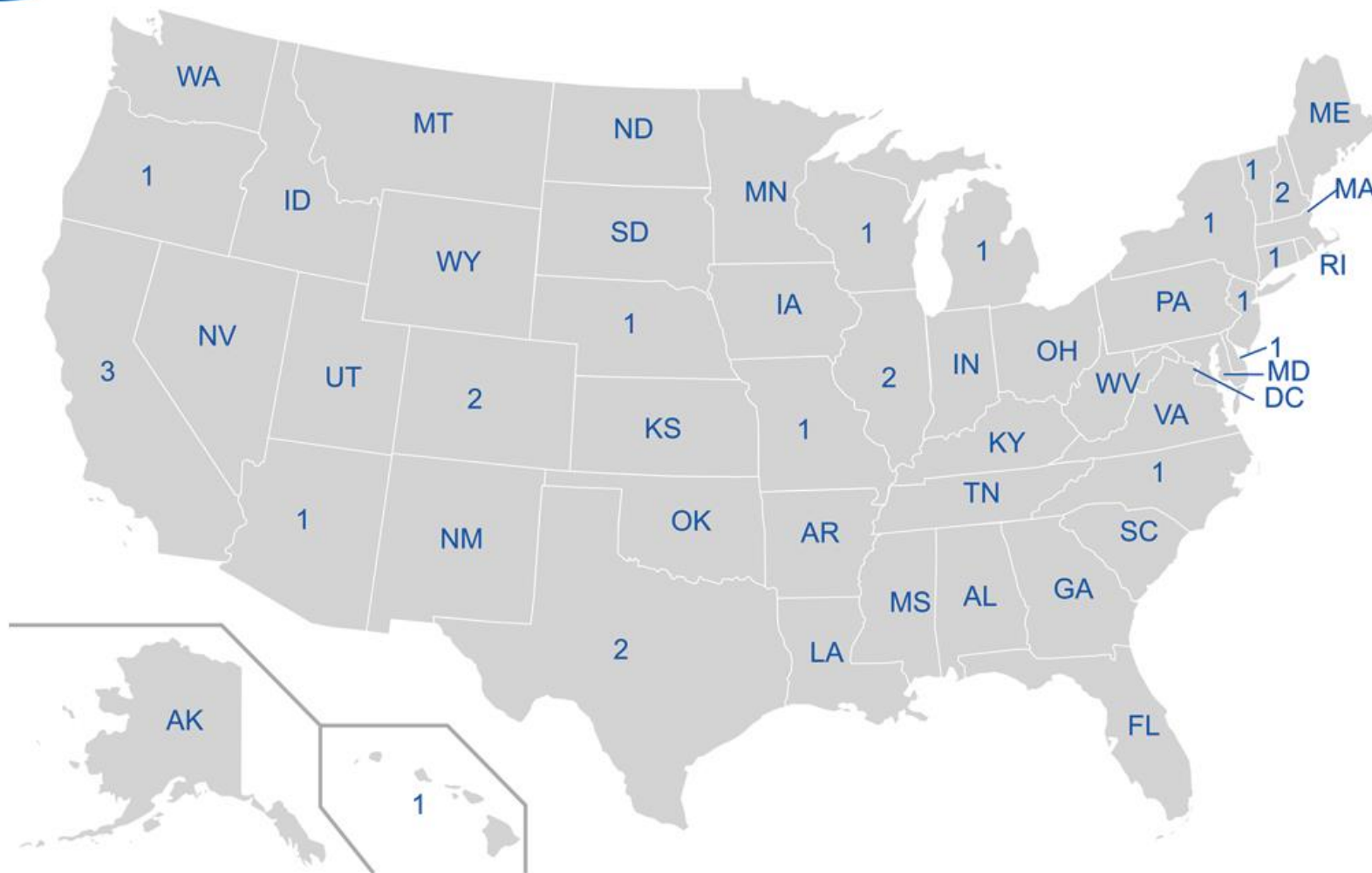
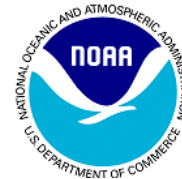
- Teachers sent to sea: 24
- Days at Sea: 363
- Research Hours: 4,356
- States represented: 18
- Active Alumni: 300+
- Outreach events: 32
- Science blogs: 161
- Graduate Credits Awarded: 10
- Media (articles, radio, TV): 30

Sailing as a Teacher at Sea was a rich, hands-on learning experience... I am excited to go back and share all I have learned with my students and a larger community of educators.

TAS 2015 Cristina Veresan



2015 Teacher at Sea Class





2015 Return on Investment

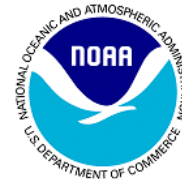


Program Operations

- 24 teachers worked on NOAA research cruises
- Teachers represented 18 states and every grade level, Kindergarten through College
- Teachers worked with NOAA scientists a combined total of 363 days at sea, more than 4,000 research hours
- 100% of the 2015 Teachers at Sea stated in the post-cruise survey that they benefited from participating and that they would recommend the program.

This experience has truly been one of the best of my life... I now feel as though I have a much more comprehensive knowledge of the biodiversity that exists in the Gulf of Mexico and a much greater appreciation for the diversity of life as a whole.

TAS 2015 David Walker



2015 Return on Investment

Web & Social Media Communications

Our **2015 Teachers at Sea** contributed to...

- 100+ TAS-produced **lesson plans** online (searchable by topic, grade level, geographical region, and teacher)
- 1,300+ easy-to-read **science blogs** online
- 14,000+ public **photos**
- [25th Anniversary Timeline](#) – profiles, photos, and articles organized by year
- Creative social media and web campaigns to lead people to blogs and photos
- 50 [Photos of the Week](#) – highlights NOAA research at sea
- 16 new [Did You Know](#) educational products – interactive images and science content from blogs

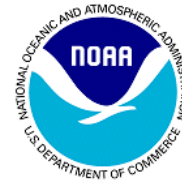


Our online following:

- 400,000+ visitors to [Teacher at Sea Website](#)
- 12,000+ [Facebook](#) likes (~ 250% increase)
- 10,700+ [Twitter](#) followers (~20% increase)



2015 Return on Investment Teacher at Sea Alumni Association



Our 300+ active alumni stay involved long after their research cruise and in 2015 they responded to numerous requests from NOAA scientists and programs for support.



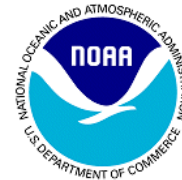
TAS alumni Megan O'Leary (2007) and Stacey Klimkosky (2009) join NOAA Fisheries staff at World Oceans Day at the Smithsonian National Museum of Natural History.

Meeting NOAA's Education and Outreach Needs in 2015 by...

- Presenting and working at **32** education conferences (with approximately 600,000 attendees) on behalf of NOAA.
- Being featured in **30** media posts (articles, TV, radio, web, etc.)
- Producing 70+ lesson plans, 50+ presentations, 1,000+ photos
- Distributing thousands of NOAA education products
- Posting weekly [Alumni Spotlights](http://teacheratsea.noaa.gov/alumni-spotlights) online



2015 Return on Investment Teacher at Sea Alumni Association



Meeting NOAA's Needs in the Regions by...

Creating Networks of Teacher at Sea Alumni to enhance their science content knowledge, learn about local NOAA data and resources, and support teacher and scientist partnerships to promote NOAA science in their communities.



In 2015, Candice Autry (TAS 2006) taught her students more about science by bringing them to a NOAA Science on a Sphere



In 2015, Elizabeth Bullock (TAS 2011) had a NOAA scientist visit her class during marine debris lesson



25th Anniversary Award Ceremony



"If we're going to produce the workforce that we need in the future, then we've got to get [students] excited. And what better way than the Teacher at Sea Program?"

Senator Shaheen

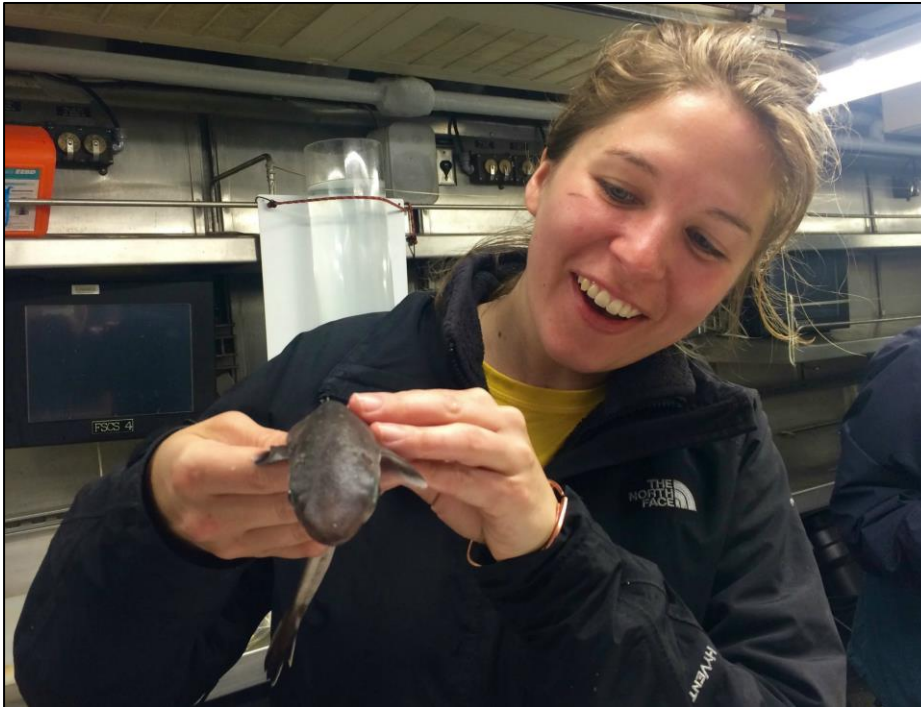
10 alumni were selected to receive the NOAA Teacher at Sea **Excellence in Science Education Award**.

NOAA Chief Scientist Rick Spinrad and **U.S. Senator Jeanne Shaheen** (NH) attended the July 15 ceremony to present the awards.





Teachers' Perspectives...



My experiences on board the Shimada have taught me a lot about myself and my abilities. I have a greater understanding of how scientists work in the field and the importance of fisheries to the health of our oceans. I plan to apply that in my classroom to increase students' understanding of marine science and awareness of possible careers.

TAS 2015 Alexandra Miller

TAS 2015 Alex Miller is excited to hold a young female dogfish (a kind of shark.)

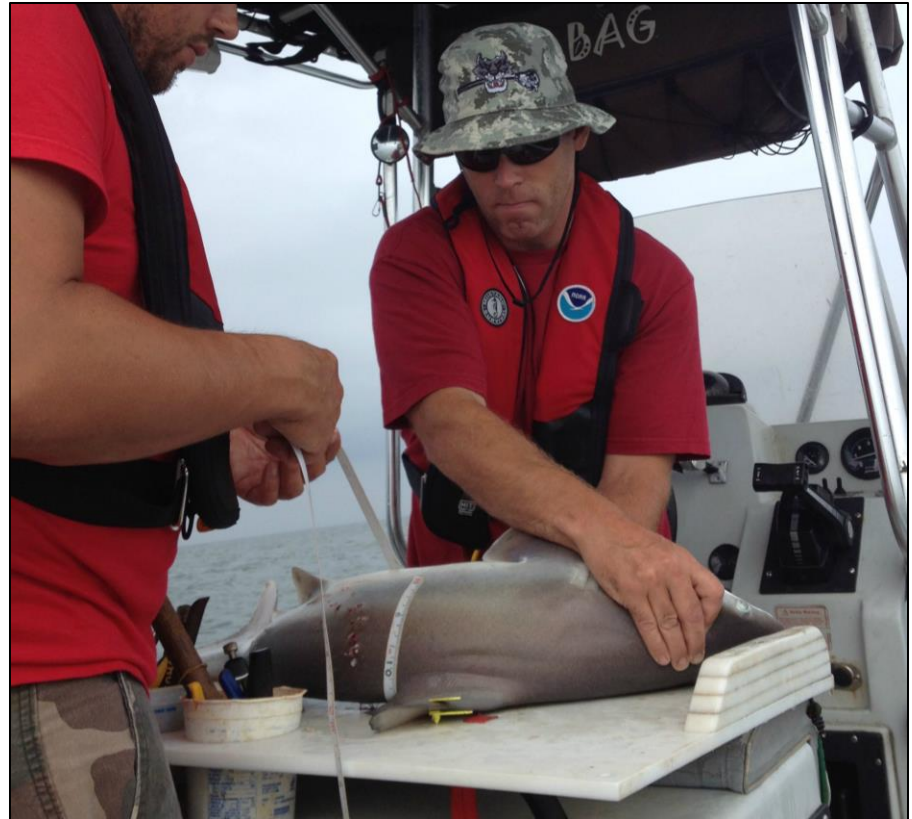


Teachers' Perspectives...



The shark tagging experience was extremely physically taxing but very rewarding. I had the opportunity to gain hands on experience in an exciting research project that will allow me to bring knowledge and excitement back to my classroom. My time working on this survey brought me a memorable experience that I will never forget.

TAS 2015 Chris Sanborn



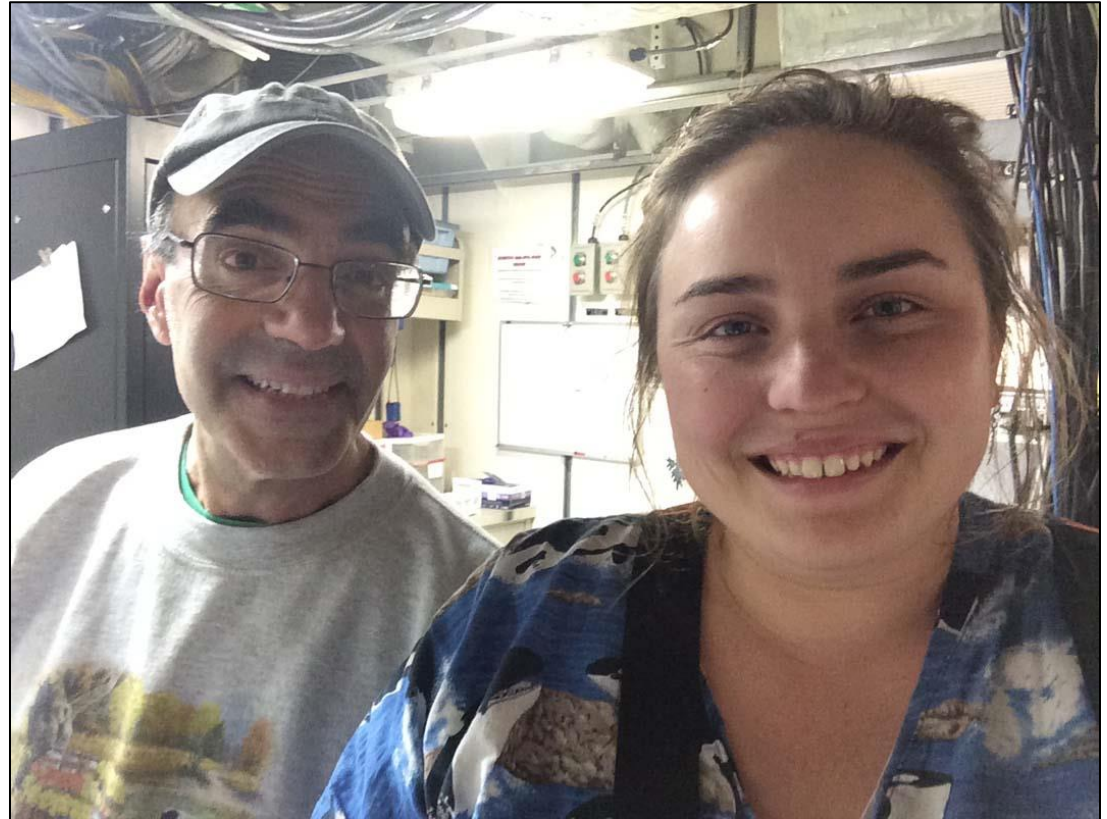
TAS 2015 Chris Sanborn helps work up a shark on board R/V *Stillwell*.



Scientists' Perspectives...

I always look forward to having teachers join us on our cruises. Their enthusiasm and energy are much appreciated on these trips, and they also provide us a way to share the work we do with their students and the public, who are often not aware of what our research is about.

Scientist Jerry Prezioso



TAS 2015 DJ Kast (right) takes a “selfie” with Chief Scientist Jerry Prezioso on board NOAA Ship *Henry Bigelow*.



Scientists' Perspectives...



Chief Scientist Darin Jones on board
NOAA Ship *Oscar Dyson*.

Our program hosts teachers each year on our surveys. The TAS program is a great resource of enthusiastic and competent help and a vital resource in the accomplishment of our objectives.

Scientist Darin Jones



Alumni Perspectives...



TAS 2011 KC Sullivan holds up a chum salmon. This year, KC worked to earn graduate credits for his TAS experience and reflection paper.

Since my Teacher at Sea experience, in teaching Marine Biology, I now bring in local species that I catch with seine nets and fishing. For Environmental Sciences, I bring students outdoors to the “lab room” for this course... I make students appreciate and reconnect with their relationship to the living land. I feel that my experience with NOAA is largely responsible for these changes.

TAS Alumnus KC Sullivan



Background Material



Once again, my experience as a Teacher at Sea has amazed me, and I have taken away so many great experiences I can't wait to share with my students... I formed relationships and made connections with people I may never have encountered, and these relationships have been (and will continue to be) invaluable to my teaching.

**2015 TAS / TAS Alumna
Andrea Schmuttermair**



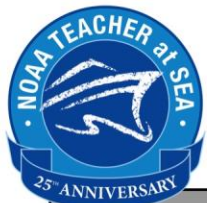
TAS 2015 Andrea Schmuttermair (left) with NOAA Corps Officers on board NOAA Ship *Oscar Dyson*.



2015 Teacher at Sea Class



Name	State	Cruise Start	Cruise End	Ship	Line Offices	Cruise Name	Embarkation Port	Disembarkation Port
PAULSEN, Theresa	WI	03/16	04/02	<i>Okeanos Explorer</i>	OAR/OER	Okeanos Explorer Leg 1 - Lobecker	San Juan, PR	San Juan, PR
WEST, Julia	VT	03/17	04/02	<i>Gordon Gunter</i>	NMFS/SEFSC	Winter Plankton - Leg 2	Pascagoula, MS	Pascagoula, MS
WHALEN, Emily	NH	04/27	05/10	<i>Henry B. Bigelow</i>	NMFS/NEFSC	Spring Bottom Trawl Survey – Leg 4	Boston, MA	Newport, RI
TEISAN, June	DC	05/01	05/15	<i>Oregon II</i>	NMFS/SEFSC	SEAMAP Spring Plankton - Leg 1	Pascagoula, MS	Pascagoula, MS
DILLIARD, Kelly	NE	05/15	06/05	<i>Gordon Gunter</i>	NMFS/NEFSC	Northern Right Whale Survey - Leg 2	Newport, RI	Newport, RI
KAST, D.J.	CA	05/19	06/03	<i>Henry B. Bigelow</i>	NMFS/NEFSC	Ecosystem Monitoring	Newport, RI	Newport, RI
MILLER, Alexandra	IL	05/27	06/10	<i>Bell M. Shimada</i>	NMFS	Juvenile Rockfish / pre-recruit survey	Newport, OR	Newport, OR
WIGMAN, Heidi	OR	05/27	06/10	<i>Pisces</i>	NMFS/SEFSC	SEAMAP Reef Fish – Leg 3	Pascagoula, MS	Mayport, FL
SAVAGE, Tom	NC	06/07	06/19	<i>Henry B. Bigelow</i>	NMFS/NEFSC	Cetacean and Turtle Biology - Leg 1	Newport, RI	Newport, RI
HANCE, Trevor	TX	06/11	06/23	<i>Hugh R. Sharp</i>	NMFS/NEFSC	Sea Scallop Survey – Leg 3	Woods Hole, MA	Woods Hole, MA
COLOMBO, Vincent	DE	06/11	06/30	<i>Oscar Dyson</i>	NMFS/AKFSC	MACE Gulf of Alaska Summer Acoustic Survey of Pollock - Leg 1	Kodiak, AK	Kodiak, AK
DURKAN, Nicholette	CO	06/11	06/30	<i>Oscar Dyson</i>	NMFS/AKFSC	MACE Gulf of Alaska Summer Acoustic Survey of Pollock - Leg 1	Kodiak, AK	Kodiak, AK



2015 Teacher at Sea Class



Name	State	Cruise Start	Cruise End	Ship	Line Offices	Cruise Name	Embarkation Port	Disembarkation Port
CAMP, Sandra	CA	06/14	06/24	<i>Hi'ialakai</i>	NMFS/PIFSC	Main Hawaiian Islands Reef Fish Surveys - HA-15-03 Leg 1	Pearl Harbor, HI	Pearl Harbor, HI
HENSKE, Bill	MO	06/14	06/29	<i>Nancy Foster</i>	NOS/ONMS	Florida Keys NMS	Key West, FL	Charleston, SC
WALKER, David	TX	06/24	07/09	<i>Oregon II</i>	NMFS/SEFSC	SEAMAP Summer Groundfish - Leg 2	Galveston, TX	Pascagoula, MS
SCHMUTTER-MAIR, Andrea	CO	07/05	07/24	<i>Oscar Dyson</i>	NMFS/AKFSC	MACE Gulf of Alaska Summer Acoustic Survey of Pollock - Leg 2	Kodiak, AK	Kodiak, AK
SANBORN, Christopher	NH	07/13	07/17	<i>C.E. Stillwell</i>	NMFS/NEFSC	COASTSPAN	Lewes, DE	Lewes, DE
WING, Michael	CA	07/17	07/26	<i>Fulmar</i>	NOS/NMS	Applied California Current Ecosystem Studies Survey	Sausalito, CA	Sausalito, CA
JOHNSON, Leah	IL	07/21	08/03	<i>Pisces</i>	NMFS/SEFSC	Southeast Fishery-Independent Survey (SEFIS)	Morehead, NC	Morehead, NC
GIBSON, Kathleen	CT	07/25	08/08	<i>Oregon II</i>	NMFS/SEFSC	Shark/Red Snapper Bottom Longline - Leg 1	Pascagoula, MS	Mayport, FL
VERESAN, Cristina	HI	07/28	08/16	<i>Oscar Dyson</i>	NMFS/AKFSC	MACE Gulf of Alaska Summer Acoustic Survey of Pollock - Leg 3	Kodiak, AK	Kodiak, AK
MUZI, Jeanne	NJ	08/03	08/08	<i>Thomas Jefferson</i>	NOS	Hydrography - Resilient Communities -	New Bedford, MA	New Bedford, MA
MILLER, Jeffrey	AZ	08/31	09/14	<i>Oregon II</i>	NMFS/SEFSC	Shark/Red Snapper Bottom Longline - Leg 3	Pascagoula, MS	Galveston, TX
LOY, Rebecca	NY	09/08	09/24	<i>Rainier</i>	NOS	Southwest AK Peninsula - Resilient Communities - RA-15-03	Kodiak, AK	Kodiak, AK



NOAA Teacher at Sea Program Goals



Short-term Goals (Skills and Knowledge)

Teachers will:

- Understand how NOAA oceanic and atmospheric research is linked to National Education Science Standards and Ocean Literacy Principles.
- Understand the education and training paths that lead to NOAA-related careers.

Mid-term Goals (Behavior and Action)

Teachers will:

- Use NOAA data and resources in classroom activities.
- Use NOAA-related career information in classroom activities, when mentoring students and when working with colleagues.

Long-term Goals (Social, Environmental, and Economic)

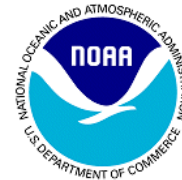
In support of NOAA's mission, the Teacher at Sea Program will:

- Build an understanding of earth system science among teachers and students.
- Build a workforce for science, technology, engineering, and math careers.

Note: Goals were created using the Bennett Logic Model. External evaluation data indicates we are meeting our Short- and Mid-term Goals, and beginning to meet long-term goal.



NOAA's Teacher at Sea Program 2015 Marks Our 25th Anniversary



**Highlighting 25 years of teachers working side-by-side
with NOAA scientists on real-world research**